

Conversion of Naval Shipyards to Commercial Shipyards

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John D. Mayer
Director

Resource Planning and Management Analysis

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Over the past four years, the Base Realignment and Closure Commissions have recommended closing half of the Navy's public shipyards in response to the downsizing of the nation's defense establishment. Three of the communities directly affected by shipyard closing - Philadelphia, Pennsylvania, Charleston, South Carolina, and Vallejo, California (which is the redevelopment authority for Mare Island Naval Shipyard) - were notified in 1993 or before, and each has responded differently. Individual responses and assessments of conversion success to date are subjects of this report. The Long Beach Naval Shipyard is on the recently approved 1995 base closure list and is just beginning the process of developing its reuse strategies. CNA was specifically asked to: examine the prospect of converting a Naval shipyard into a commercial shipyard; and analyze the social and economic challenges these communities might face under such a conversion effort.

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**Memorandum for the Principal Deputy Assistant Secretary of the Navy,
Installations and Environment**

Subj: CNA Research Memorandum 95-179.10

Encl: (1) CNA Research Memorandum 95-179.10, *Conversion of Naval Shipyards to Commercial Shipyards*, by Albert W. Deckel, Jr., Martha Koopman, and John D. Keenan, 20 Dec 1995

Enclosed is the final version of CRM 95-179.10, *Conversion of Naval Shipyards to Commercial Shipyards*. In this research memorandum, CNA examined the prospects of converting Naval shipyards into commercial shipyards, and analyzed the social and economic challenges the affected communities would face under such a conversion effort.

If you have any questions, please call Albert W. Deckel, Jr., at (703) 824-2166.

A handwritten signature in black ink, appearing to read "John D. Mayer", is written over the printed name.

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Summary

Over the past four years, the Base Realignment and Closure Commissions have recommended closing half of the Navy's public shipyards in response to the downsizing of the nation's defense establishment. Three of the communities directly affected by shipyard closings—Philadelphia, Pennsylvania, Charleston, South Carolina, and Vallejo, California (which is the redevelopment authority for Mare Island Naval Shipyard)—were notified in 1993 or before, and each has responded differently. The Long Beach Naval Shipyard is on the recently approved 1995 base closure list and is just beginning the process of developing its reuse strategies.

Our tasking

The Principal Deputy Assistant Secretary of the Navy (Installations and Environment) asked the Center for Naval Analyses (CNA) to examine the responses of the communities cited above to base closures. Specifically we were asked to:

- Examine the prospect of converting a Naval Shipyard into a commercial shipyard
- Analyze the social and economic challenges these communities might face under such a conversion effort.

Our approach

We visited the shipyards and communities affected by the base closures and examined the facilities, talked with community leaders, and discussed reuse plans with Navy and government officials. We also examined relevant data. Specifically, we looked at

- Commercial shipyard capacity and ship repair demand
- Unemployment rates by region

- Regional manufacturing employment
- Worker retraining program results.

Findings

Shipyard conversion

Some of the property and facilities that the Navy will turn over to these communities could be used for commercial shipyard purposes. But is this the best use of these resources? Our research indicates that commercial shipyard capacity exceeds demand by a large amount. This mismatch between supply and demand indicates that converting these Naval Shipyards into profitable commercial enterprises is not without risk.

Some conversion appears possible. In Philadelphia, one private company is using some of the facilities for ship overhaul while another company is producing hydraulic machinery. The city also hopes to attract a shipbuilder to the area. They are negotiating with a domestic firm on the details for a long-term commitment, and are exploring the possibility of attracting a foreign builder to the site.

In Charleston, the conversion to commercial shipyard work has also begun with the overhaul of a Military Sealift Command ship. This work is being performed by the Charleston Marine Manufacturing Corporation, a local business consortium which has entered into a five year lease with the local Redevelopment Authority for the shipyard's largest drydock. A New York firm, Babcock and Wilcox, is expected to sign a lease in the immediate future for the shipyard machine shop and RAMP (Rapid Acquisition of Manufactured Parts) facility. Two other local firms specializing in ship repair have shown an active and continuous interest in leasing shipyard property. Additional ship repair work could result from a contract recently won by VSE Corporation of Alexandria, Virginia, to overhaul ships that the Navy will lease or sell to foreign governments. South Carolina shipyards will be awarded up to 29 percent of the contract.

Vallejo is not attempting to develop a commercial shipbuilding or repair operation at the Mare Island facilities. The island is close to

Oakland and San Francisco, which have excess shipyard repair capacity. Vallejo plans some industrial development for the former shipyard, but this will occupy only a small segment of the total property. The city will use the remainder of the property for other economic development opportunities.

Retraining the workforce

The three communities—Philadelphia, Charleston, and Vallejo—all developed retraining programs to help displaced workers find jobs. Cooperation has been excellent between the Navy and the three state labor departments in coordinating dislocated worker benefits. The job-training programs at these locations have been successful thus far in meeting their goals of getting workers reemployed in satisfactory jobs.

But these programs lack a direct link between job training and economic development in the shipyard community. With this link a program can provide satisfactory jobs for displaced workers while helping to foster economic development in the community. Such a program should:

- Develop a public/private partnership for work-based training
- Balance the needs of the community, employers, and workers
- Avoid the pitfalls of previous on-the-job training programs
- Meet the challenges of retraining for job creation.

Long Beach

Long Beach may offer the best opportunity for conversion to commercial shipyard activities. The Shipyard is located in the geographic center of the San Pedro Ports (Los Angeles and Long Beach), the third largest commercial port complex in the world. The heavy volume of commercial traffic in and out of these ports and the nature of the facilities that the Navy will make available to the community are factors that could make a commercial shipyard viable. The facilities are modern and the drydock will be the largest private drydock on the west coast. Of course, a profitable endeavor in Long

Beach would have to rely on attracting business from established shipyards. The decision to explore commercial shipyard options will be the community's based on the other opportunities that are available and the community's long term goals.

Regardless of the final decision for reuse of the Shipyard facility, the depressed local labor markets make worker retraining an important aspect of future economic development. Long Beach has the opportunity to capitalize on the lessons learned from Philadelphia, Charleston, and Vallejo and to develop training programs that provide satisfactory jobs for workers and foster economic development in the community. Worker retraining should emphasize

- Developing a work force aimed at attracting new business
- Providing incentives to companies to relocate in the shipyard area
- Involving prospective employers in designing training programs
- Work-based learning to meet employers' needs.

Introduction

Over the past four years, the Base Realignment and Closure Commission (BRAC) has recommended closing one-half of the Navy's operating Shipyards. This reflects the changes deemed necessary to bring the Navy's infrastructure more closely in line with the needs of the smaller operating Navy of the post cold war period. With the closing of these yards, communities are faced with looking for ways to convert the facilities and assets coming available into productive enterprises that will spur economic development and provide jobs.

The Principal Deputy Assistant Secretary of the Navy (Installations and Environment) asked the Center for Naval Analyses (CNA) to conduct a research effort looking at the communities of Philadelphia, Pennsylvania, Charleston, South Carolina, Vallejo, California (which is the redevelopment authority for the Mare Island Naval Shipyard), and Long Beach, California, as they face the challenges of closing a Naval Shipyard. Specifically, she asked that we address:

- The prospect of converting a Naval Shipyard into a commercial shipyard
- The economic and social challenges these communities might face under such a conversion effort.

Although many of the challenges and questions facing each of these four communities are similar, the communities themselves and the conversion possibilities that are realistic in each location differ. Charleston and Vallejo are relatively small communities (each has a population of about 100,000) located in a county or region with a population of about 0.5 million. Long Beach and Philadelphia, on the other hand, are located in the second- and fourth-largest population centers in the United States (10 million and 6 million people, respectively).

The relative importance of the Shipyard to the economic well-being of the community varies by community. In Charleston and Vallejo, the Shipyard has accounted for a large percentage of the manufacturing or industrial work performed in that area; in Long Beach and Philadelphia, this percentage was extremely small.

Employment opportunities are an important consideration for any community affected by base closure. We studied the employment profiles in each of the closing Shipyard communities and examined current issues affecting the job market in each community. Specifically, we

- Surveyed the buildings in the industrial area of each Shipyard, examining the configuration and associated equipment, to understand the scope of conversion possibilities.
- Examined the general approach taken in each community to worker retraining and job placement.
- Reviewed the various retraining programs established in each community and the job opportunities that have resulted from various types of retraining. We provide later in this report details of job training programs.

Our research indicates that converting some Naval Shipyard functions to commercial shipyard functions might be possible in all four communities. But the extent to which this is true varies by location, and the wisdom of such conversion efforts must be judged in light of other economic opportunities that might serve the needs of the community better in the long term. In all communities, job training for displaced workers is very important. Opportunities exist, however, to make that better, especially in Long Beach, where job training efforts for shipyard workers have recently begun.

Shipyard conversion

This section provides a brief background on the four Navy Shipyards that are scheduled to close as a result of BRAC recommendations from 1991 through 1995. We also provide information here that should be considered in determining the feasibility of converting public shipyards into private shipyards. This information includes the existing capacity of private shipyards in the U.S. today, the volume of commercial traffic into selected U.S. ports, the Maritime Administration's outlook on the future of domestic shipbuilding and repair, and a brief comparison of the organization and personnel structure in public and private shipyards.

Background

The four closing Navy Shipyards that are the basis for this study vary widely in location, existing Navy mission, condition of buildings and other on-base facilities, and potential for conversion to a commercial shipbuilding or repair facility. Although no ships have been built in any Navy Shipyard since 1973, a shipbuilding capability for specialty ships is still available at one location scheduled for closure. The fact that each closing Shipyard offers modern and well-maintained ship repair equipment along with multiple operational drydock facilities may attract the attention of the commercial shipping business.

The Philadelphia Shipyard, one of the Navy's six original Shipyards, has been in operation continuously since 1801. This facility was recommended for closure by BRAC 91. During its last years of operation, the primary mission of this Shipyard was the Service Life Extension Program (SLEP) for non-nuclear aircraft carriers. This program has now been terminated, as the carrier force of the future will become totally nuclear. The fact that the existing propeller shop and foundry along with a ships' system engineering station will remain active on the Shipyard property and can do business with

private companies is unique among the closing Shipyards. Its location within the city limits of one of the largest cities in the country and directly on the banks of the commercially well-traveled Delaware River may enhance the commercial conversion opportunities in this Shipyard. Although Philadelphia is the only one of the four Shipyards that is officially closed—the closing took place on 15 September 1995—more than 2,000 Navy employees are still working at this installation.

BRAC 93 recommended the closing of the Charleston Naval Shipyard and the Mare Island Naval Shipyard. Both are scheduled for closure in the spring of 1996. There is mission similarity at these installations in that their primary function in recent years has been the overhaul and refueling of nuclear submarines. Charleston also provided support for and served as home port to a number of destroyers and minesweepers. These installations have enjoyed long and distinguished tenure as Naval Shipyards. Mare Island opened in 1853 and Charleston opened in 1901. Both performed shipbuilding and repair functions during the two world wars and both have been the largest employers in their geographic regions throughout their history. Today the geographic regions surrounding these installations each number approximately one-half million people, and until the reduction in personnel was well under way, each continued to be the largest employer in the area.

Long Beach is the newest of the four closing Shipyards. This installation was opened in 1935 to provide support for inactive ships of the Reserve Fleet and active service fleet ships. No ships were ever built at Long Beach. The Shipyard mission since the Korean War has been to refit all fleet ships except submarines and provide logistic support for operating groups of the Pacific Fleet. The recently closed Long Beach Naval Station adjoins the Shipyard property and is being reused in part by the city to expand the port of Long Beach. The ports of Long Beach and Los Angeles, which are collectively termed the San Pedro Ports, rank as the third largest commercial port in the world. The current and projected rapid growth of the port suggests that use of Shipyard property for further port expansion will be considered.

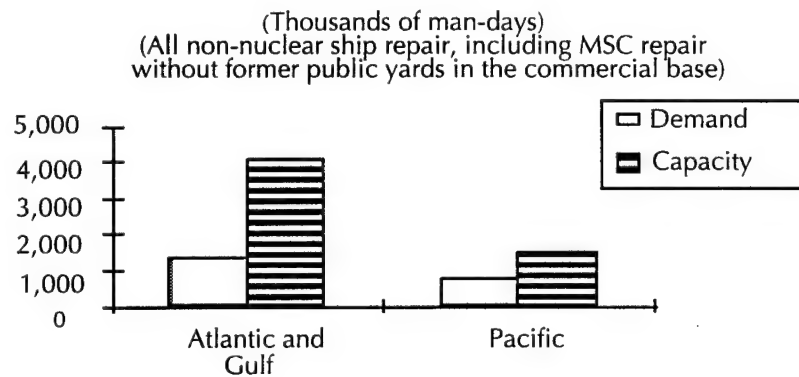
Capacity and demand

In order to evaluate whether conversion of Naval Shipyards to commercial shipyards offers a long-term opportunity, it is important to understand the market picture. This section compares the current capacity of commercial shipyards to the demand for their services.

Commercial shipyard capacity for both building and repairing exceeds demand in the U.S. A decline in Navy shipbuilding and a lack of sufficient commercial orders to support the existing shipbuilding capacity in the U.S. has led most U.S. Shipyards to pursue commercial ship repair work. Repair work generated by U.S.- flagged commercial ships is not sufficient, however, to exhaust the capacity of our commercial shipyards, and domestic shipyards have had only limited success attracting repair or conversion work from foreign ship operators and owners.

The major portion of ship building and repair work in the United States remains Navy owned, Navy sponsored, or Navy affiliated. Figure 1 shows the demand that is expected to be generated by these Navy owned, sponsored, or affiliated ships by 1999 and the capacity that today's commercial yards will provide.

Figure 1. Navy ship repair demand and national capacity 1999



The shipyard workload¹ (i.e., demand) for the repair of non-nuclear ships of the Navy (including the various ships of the Military Sealift Command) is shown in the solid columns. It reflects a planned shift in Navy repair work from 60 percent public/40 percent private to 30 percent public/70 percent private by 1999. The demand occurring on the Atlantic and gulf coasts is shown on the left; the demand on the west coast and Hawaii is shown on the right, labeled "Pacific."

The striped columns depict the capacity available in the private sector to do the work. The capacity² shown does not include remaining Navy shipyards nor the potential capacity of the four closing or closed former Navy Shipyards.

Commercial tonnage

A Shipyard's location influences its viability. Proximity to major shipping hubs on the east and west coasts might be important factors when deciding to commercialize a Naval Shipyard. Ports having a large flow of commercial traffic might offer the opportunity for emergency repair work at a nearby yard. A large port might have sufficient traffic to sustain a repair facility.

We examined the type and volume of commercial traffic in Charleston, Philadelphia, and Long Beach. We did not consider Vallejo, as no commercial port is located close enough to the Shipyard to make commercial traffic easily accessible.

Figure 2 shows the gross tonnage shipped in and out of the major ports in this country. The ports of Long Beach and Los Angeles, which are

1. The demand for work in 1999 is taken directly from the Commander, Naval Sea Systems Command (SEA-07), plan for depot-level maintenance of Navy ships. The chief engineer of the Military Sealift Command provided the schedule for overhaul and maintenance of the civilian manned Naval ships of the Military Sealift Command (MSC). Total workload, or demand, is the sum of NAVSEA workload and MSC workload.
2. The capacity of the commercial sector of U.S. ship repair is taken from the Maritime Administration's 1994 *Report on Survey of U.S. Shipbuilding and Repair*. Only those 127 shipyards that are currently available through in-place ship repair agreements with the Navy are included in the total.

Figure 2. Commercial tonnage, selected U.S. ports (1992)^a



a. Commercial tonnage by port, *Lloyds Ports of the World*, 1995.

collectively called the San Pedro ports, totalled more than 143 million tons of cargo in 1992. This figure far exceeds the tonnage of any other region of the country. More than 11,000 ships called on these ports during the year. On the east coast, the port of Philadelphia handled the second largest volume—58 million tons.³ If the volume of the other major Delaware River ports (Camden and Wilmington) is added in, the Philadelphia area handled the largest cargo volume on the east coast. Looking to the south, the port of Charleston handled 8 million tons. It is located about 7 miles from the Naval Shipyard and close to two commercial repair yards. The relatively small volume of the port is not likely to sustain another commercial repair yard for emergency ship repair.

Judging solely by commercial traffic, Philadelphia and Long Beach have the greatest possibilities for converting to commercial repair

3. The largest east coast commercial port is Hampton Roads, at 63 million tons.

yards. Although our research indicates that projected shipyard repair capacity in the U.S. clearly exceeds the expected demand through the turn of the century, location may make Naval Shipyards in Philadelphia and Long Beach attractive—at least on a limited scale—for commercial repair work. Such work, however, would be at the expense of existing yards. Although new commercial repair yards in the U.S. may increase capacity that is already in excess of demand,⁴ new yards will be able to exploit the benefits of quality equipment and facilities being left by the Navy. Much of America's domestic repair capacity is not modern.

MARAD outlook

The excess capacity in existing yards is symptomatic of a trend that has been occurring in the shipbuilding industry in the United States for some time. Indeed, it has been the Navy's shipbuilding program that has sustained the larger yards for the past decade. The future does not look much better, except in some of the niche markets discussed below and in more detail in appendix A.

The 1995 outlook for shipbuilding and repair published by the U.S. Maritime Administration (MARAD) cites the decline in naval ship construction as the most important challenge facing the U.S. shipbuilding industry.⁵ It also points out that the U.S. ranked 26th in merchant shipbuilding in the world, providing only 0.2 percent of the world's gross tonnage that is currently on order.

MARAD was optimistic about present and future construction potential for a number of smaller vessels, but these are primarily recreational and utilitarian vessels, such as casino/gambling boats, small intra-

-
4. There is little demand in this country for repair of foreign ships. Cheaper labor costs in foreign countries with large international fleets have, in the past, made it more attractive for non-emergency ship repairs to be conducted in home or neighboring countries. Over the past decade, currency exchange rates and labor costs have changed dramatically in Asian countries that dominate the international shipping market. During this period, the number of foreign ships trading in U.S. ports has increased significantly.
 5. See U.S. Department of Transportation, Maritime Administration, *Outlook for the U.S. Shipbuilding and Repair Industry-1995*.

coastal passenger ships, and excursion boats. Although this niche might sustain some small yards, it is not the type of construction that sustains a national shipbuilding program.

Could this type of work be done at any of the closing Naval Shipyards if they were to convert to commercial yards? All of the yards have the capacity to construct these types of ships, but the demand has not reached the point where it will sustain existing commercial yards, much less new ventures.

Public and private shipyards

One of the difficulties in converting a public shipyard to a private commercial shipyard is the difference in the organization and personnel structure of the two types of yards. The size and composition of the workforce in the public yard are inconsistent with profitable commercial operations. Any attempt to convert a public yard to a potentially profitable commercial yard would require a substantial restructuring and downsizing of the public yard workforce.

We examined the data on the production and nonproduction workforce at private and public shipyards to determine similarities and differences in the workforce. We looked at the four Navy Shipyards that are being closed and four private repair yards that are currently doing work for the Navy. We found that the private facilities were smaller in acreage and operated with fewer tools and less equipment than the public yards. Also, the total number of employees in the private yards was much smaller than in the public yards.

Table 1 provides the total number of employees and the number of employees considered to be production workers at the four closing Navy Shipyards and the four selected private yards. Public yards had an average of only 50 percent of their workforce in production. The four commercial ship repair facilities we reviewed dedicated 82 percent of their employees to production.

Even if these four public yards were to convert to some commercial shipbuilding operation, not all of the employees are likely to find

Table 1. Workforce comparison in public and private shipyards^a

		Total Employees	Production	% of Total
Public	Philadelphia	4,813	2,602	54
	Vallejo (Mare Island)	4,504	1,685	37
	Long Beach	3,429	1,885	55
	Charleston	4,292	2,383	56
	Totals	17,038	8,555	50
Private	Norfolk Shipbuilding and Drydock	1,574	1,291	82
Repair	Detyens Shipyard Inc.	312	263	84
	Southwest Marine Inc. (San Diego)	1,556	1,265	81
	Southwest Marine Inc. (San Pedro)	326	280	86
	Totals	3,768	3,099	82

a. 1994 ISRB, NAVSHIPSO, 31 May 1995.

employment in private yards. Nonproduction workers may find opportunities in other government organizations or in the private sector doing work comparable to the work they were doing in the shipyard. But the market for production shipyard workers is relatively small.

The Bureau of Labor Statistics of the U.S. Department of Labor reported that 107,000 persons were employed in private shipyards during 1994.⁶ Total employment numbers have decreased steadily in this industry during recent years; this is the smallest number of people employed in this area during the past 39 years. Although workers in private shipyards saw a significant increase in earnings during the first nine months of 1994, the average salary is still considerably lower than the average salary in public shipyards.⁷

6. Standard Industrial Classification (SIC) for Shipbuilding and Repairing, Code 3731.

7. *MARAD Report on Survey of U.S. Shipbuilding and Repair Facilities*, December 1994, and average salaries reported by the Philadelphia and Mare Island Naval Shipyards in 1994.

Community employment profiles

The preceding section described conditions in the shipbuilding and repair industries that impact on possible commercial uses for closing Navy Shipyards. Conversion also depends, however, on the health of the local labor market. A dynamic, full-employment labor market will offer ex-shipyard workers many alternatives, perhaps drawing them away from the shipyard. On the other hand, the need for job creation and retraining will be greater where labor markets are sluggish.

This section examines the relative sizes of the Philadelphia, Vallejo, Charleston, and Long Beach economies and trends over time in manufacturing employment, total employment, and unemployment. The statistics are taken from reports put out by the U.S. Department of Labor⁸ (definitions of regions and series used are given in appendix B). All of the numbers are annual averages except for 1995, for which data were available only through February and March. Because of this, and because the monthly data are not seasonally adjusted, the 1995 numbers may change substantially.

Current size—total and manufacturing employment

Figure 3 shows total and manufacturing employment in the four communities. In 1994, total non-farm employment ranged from 141,000 in the Vallejo/Fairfield/Napa statistical area to 3,704,000 in the Los Angeles/Long Beach area. The Vallejo and Charleston economies are of a much smaller scale than those of Long Beach and Philadelphia. Furthermore, the two smaller regions have even relatively smaller manufacturing sectors.

8. U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, May issues from 1984 through May 1995.

Figure 3. Total and manufacturing employment in the four regions

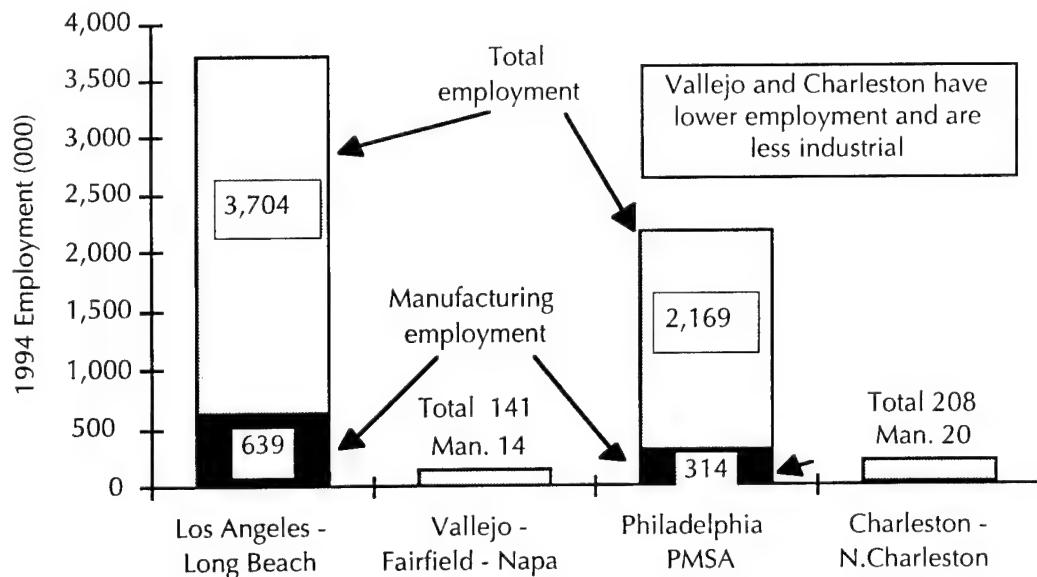
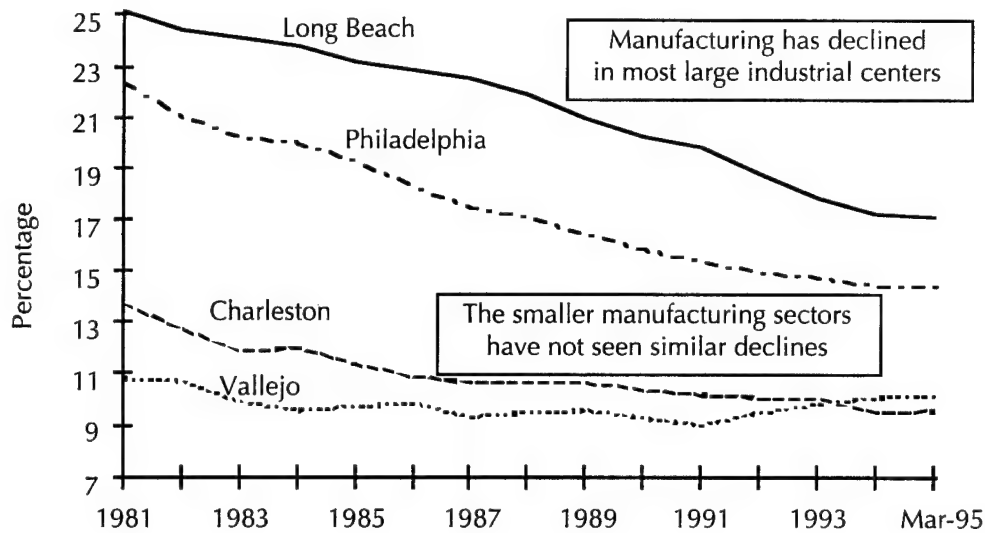


Figure 4 shows the relative importance of manufacturing employment in each region. This sector is important because manufacturing is the closest private-sector substitute for shipyard work. Manufacturing has been declining steadily, as a percentage of total employment, for some time in the two larger industrial centers. Manufacturing jobs were 17 percent of all jobs in Los Angeles/Long Beach in 1995, down from 25 percent in 1981. In the Philadelphia region, manufacturing declined from 22 to 14 percent. This reflects a nationwide trend toward more service sector employment and the migration of manufacturing away from traditional locations.

Figure 4 illustrates the relatively small role of manufacturing in Vallejo and Charleston. In those regions, only about 10 percent of non-farm jobs are in the manufacturing sector. On the other hand, manufacturing has been holding its own in these smaller economies as opposed to the declines in Philadelphia and Long Beach.

Figure 4. Manufacturing as a percentage of total employment



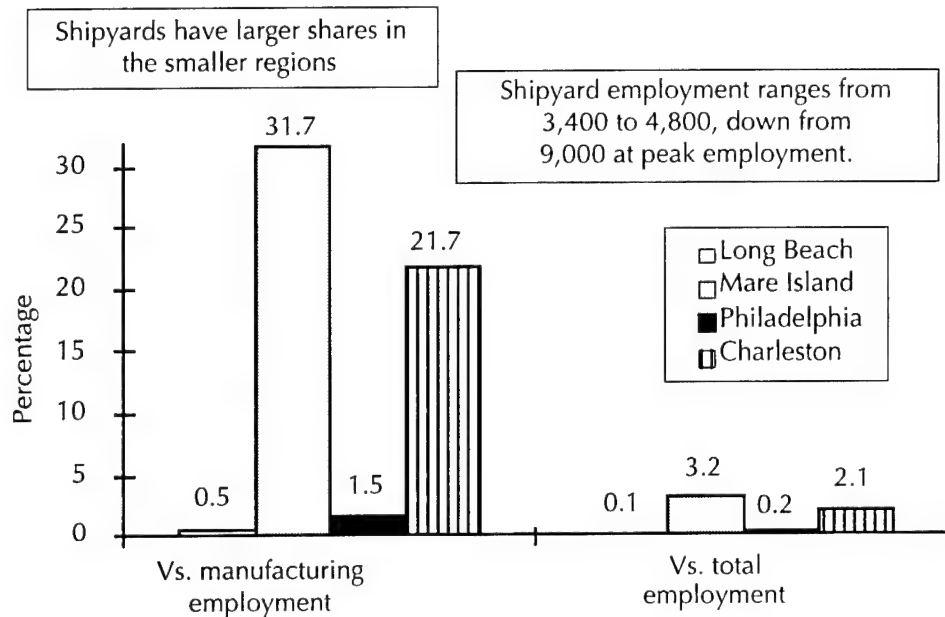
Shipyards' share in regional employment

Figure 5 shows the importance of the Naval Shipyard in the local labor markets. Because Vallejo and Charleston offer little manufacturing employment, the dislocated Shipyard workers represent a substantial share of manufacturing employment, 32 percent in the Vallejo region and 22 percent in the Charleston region.

Expanding our scope to total non-farm employment, the 3,400 to 4,800 Shipyard workers represent 2 to 3 percent of the jobs in Vallejo and Charleston and negligible percentages in Philadelphia and Long Beach.⁹

9. According to the U.S. Department of the Navy, NAVSEA Shipbuilding Support Office (NAVSHIPSO), Industrial Shipbuilding and Repair Base (ISRB), Oct 1994, employment at the four Navy Shipyards was 4,813 in Philadelphia, 4,504 in Mare Island, 4,292 in Charleston, and 3,429 in Long Beach. All of the Shipyards had undergone considerable downsizing by 1994. The peak employment at the bigger yards was more than 9,000 in the mid-1980s.

Figure 5. Shipyards' share in regional employment



Although the scale of the Philadelphia and Long Beach economies suggests many alternative jobs, an economy's ability to absorb dislocated workers depends not only on size but on growth rates. We examine trends in employment and unemployment statistics in the next section.

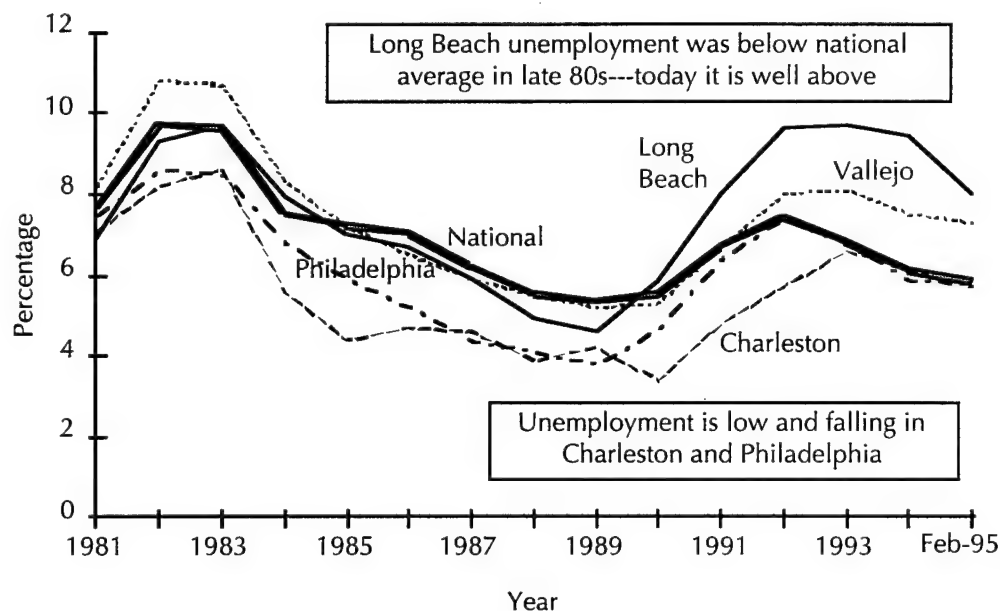
Long-term trends

Dislocated Shipyard workers will obviously have a harder time finding a job if many unemployed workers are already in the area. Also, placement is easier in a growing economy because growth means new job openings. In order to assess regional differences, this section follows unemployment rates and indices of total and manufacturing employment from 1981 through 1995.

Unemployment rates

Figure 6 shows trends in unemployment rates in the four regions. First we see that labor markets in the east coast regions are surprisingly healthy. Although these regions followed an upward national trend from 1989 to 1992, unemployment rates in the Philadelphia and Charleston areas remained at or below the national average, and have been falling since 1992. In Charleston this is in spite of the closure of many military installations besides the Shipyard.

Figure 6. Unemployment rates



Long Beach, however, faces a worse unemployment problem. In 1989, only 4.6 percent of the Los Angeles/Long Beach labor force was unemployed—below the national average of 5.3 percent. By the early 1990s, though, unemployment was 9 to 10 percent—well over the 6 to 7 percent national average. In 1994 more than 400,000 people were unemployed in the Long Beach region.

Notice that the drop in 1995 is based on only one month's data and is not seasonally adjusted. The decline in unemployment in 1995 may look less dramatic once annual averages are available.

Unemployment in the Vallejo region also increased from 1990 to 1992 and remains above the national average. They are, however, 2 percentage points below Long Beach.

The steep increase in unemployment in southern California can be tied to defense downsizing and, in particular, to the downsizing of the aerospace industry. From 1985 to 1993, California's active duty military force fell 17 percent, its DOD civilian workforce fell 15 percent, and defense contracting fell 9 percent.¹⁰ The estimates of total job losses due to defense downsizing range from 600,000 to 800,000 by 1999. A Congressional Budget Office (CBO) report on the effects of reduced defense spending concluded that California would be the hardest hit state and aircraft manufacturing among the hardest hit industries.¹¹ Personnel in the California aerospace industry declined from 500,000 in 1987 to 393,000 in 1992, with predictions of up to 200,000 more job losses by 1995. These figures are for the entire state, but the aerospace industry is concentrated in southern California.

Indices of total and manufacturing employment

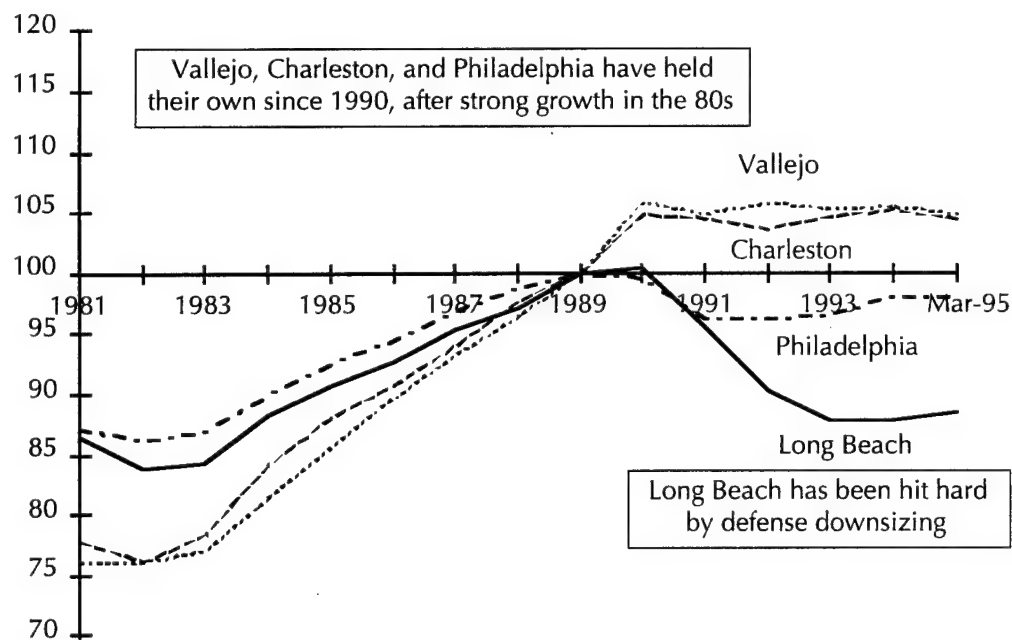
Figures 7 and 8 show that employment, especially manufacturing employment, has fallen sharply in the Los Angeles/Long Beach region. Annual average employment is shown relative to 1989, for which the index is set at 100.

All four regions reported strong growth in total employment between 1983 and 1989. In Vallejo, employment increased from 101,800 in 1982 to 140,200 in 1991, increasing the number of jobs by 38 percent. Charleston increased from 150,600 to 206,400, or by 37 percent. Furthermore, employment in both regions has remained at 1991 levels.

10. Report of the California Military Base Reuse Task Force, Susan Golding, Chair. *A Strategic Response to Base Reuse Opportunities*, Jan 1994.

11. The Congress of the United States, Congressional Budget Office, *The Economic Effects of Reduced Defense Spending*, Feb 1992.

Figure 7. Indices of total non-farm employment in the four regions

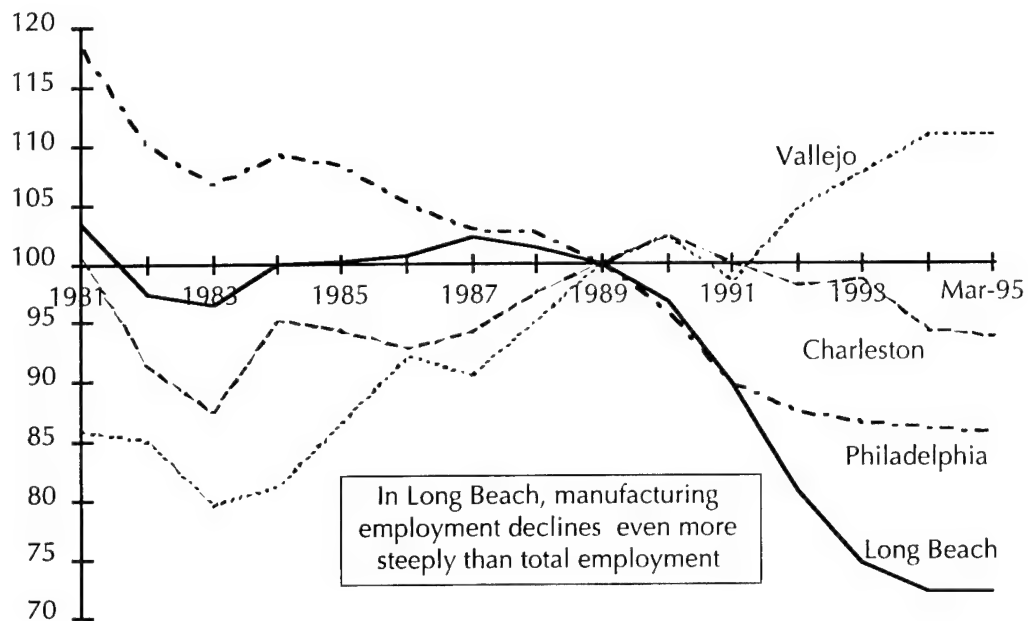


Philadelphia and Long Beach added more jobs, although growth rates were lower. From 1982 to peak employment levels in 1989, Philadelphia added 305,300 jobs for 16 percent growth; Long Beach added 687,300 jobs for 19 percent growth. Since 1989, employment has declined by 41,100 in Philadelphia and by 516,500 in Long Beach.

Manufacturing employment has grown in both the Vallejo and Charleston regions. This growth is from a small base, however, so Vallejo's rise from 1990 to 1994 represented only 1,100 additional jobs.

In contrast, manufacturing employment in the Long Beach region has fallen even more sharply than total employment. After peaking at 905,900 in 1987, manufacturing jobs fell to 638,700 in 1994—almost 30 percent of all jobs in manufacturing industries were lost over this 7-year period.

Figure 8. Indices of manufacturing employment in the four regions



Summary

As shown above, the economic situation in each of the regions is dramatically different:

- Charleston and Vallejo are smaller communities.
 - They have relatively healthy economies.
 - The Shipyard was a big employer, and manufacturing workers have few alternatives.
- In spite of declines in manufacturing, Philadelphia's total employment picture is good.
- Long Beach suffers the effect of declining defense-related employment, particularly in the aerospace industry.
 - The unemployment rate is high.
 - Declines in employment, especially manufacturing employment have been steep.

- Regardless of Shipyard reuse prospects, Long Beach faces the most troublesome local labor market.

Community plans and potential

In this and the next section we examine the reuse plans that each of the communities has approved and the approach each is taking toward worker retraining.

Facility reuse plans

The individual communities developed final reuse plans for the Naval Shipyard facilities and submitted them to the Navy for approval. Although there is no reuse plan for the Long Beach Naval Shipyard (it was scheduled for closure by the Base Realignment and Closure Commission (BRAC) in 1995), there is a reuse plan for the Long Beach Naval Station. The Naval Station (a property contiguous to the Shipyard), a Naval hospital, and two dependent housing areas were closed in September 1994 as a result of BRAC 91.

We learned about community priorities for redevelopment by interviewing local government officials and Navy personnel assigned to the Base Transition Office. We assessed the property available for reuse, including:

- The location of each facility
- The condition and configuration of buildings, roads, and rails
- The age and condition of exterior and interior equipment that is onsite and could be available to a potential commercial shipyard operator.

Also, we examined the capacities and conditions of commercial shipyards located nearby and assessed the potential shipbuilding or ship repair opportunities in each area.

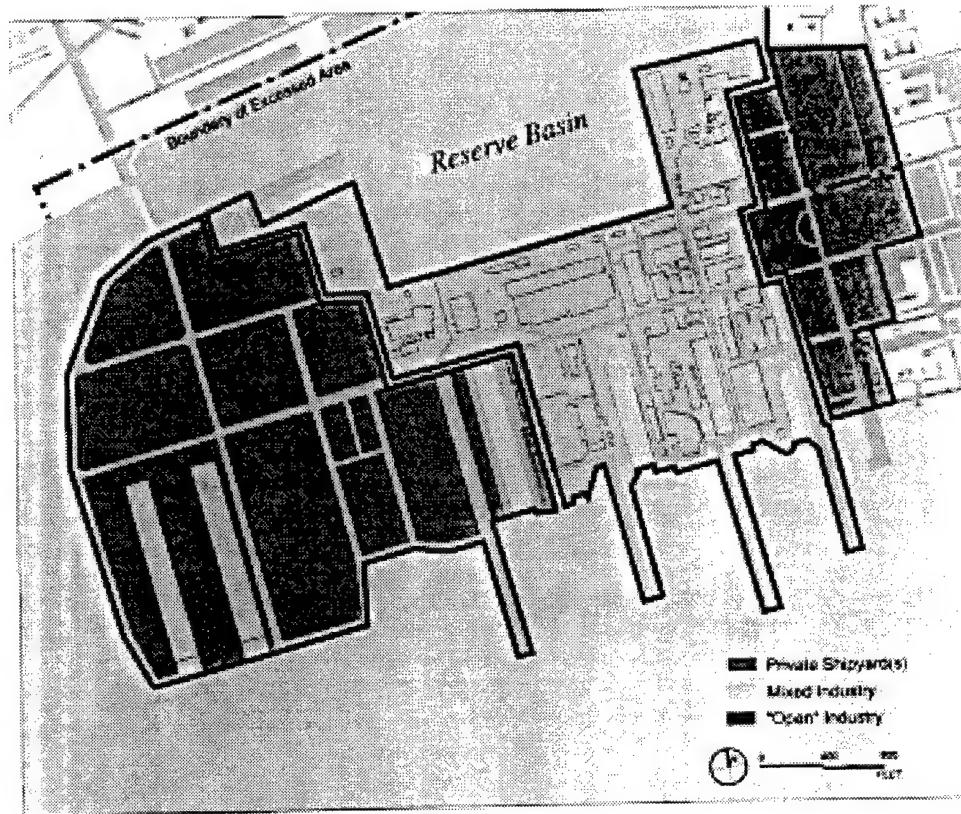
Philadelphia

Both the Naval station and the shipyard in Philadelphia were officially closed on 15 September 1995 as a result of BRAC 91. Although the Naval Shipyard is officially closed, almost 2,000 Navy personnel remain working on the base today. The majority of these are assigned to the Naval Surface Warfare Center (NSWC). NSWC performs an engineering research and test mission for the Navy and employs about 1,500 civilian personnel. In addition, the Norfolk Naval Shipyard will continue to operate the existing Propeller Shop and Foundry, employing approximately 250 civilians. The Naval Inactive Ship Maintenance Facility will continue to be responsible for storage and maintenance of "mothballed" ships. Current plans project an increase in the number of ships stored in Philadelphia. This activity is expected to support a contract work force of about 200 civilians.

Attracting a private shipbuilding or repair company is a priority in the community conversion initiative according to the Community Reuse Plan for Philadelphia. The west end of the Shipyard property (the shaded portion on the left in figure 9) has been designed for this purpose, and the community has an active marketing effort under way to secure a shipbuilder or repair company. Local and state authorities are considering proposals. In the mean time, some conversion has begun in the former Navy Shipyard.

Metro Machine Incorporated has leased one building and a large drydock and began the overhaul of a Navy ship in early November 1995. Metro Machine, a Norfolk, Virginia company, also operates a ship repair facility in nearby Chester, Pennsylvania. It hopes to lease additional space in the Shipyard to build modular designed double-hull tankers. Metro plans to develop an indoor assembly line process, employing approximately 700 people. The Marine Division of Westinghouse Electric has agreed to lease space to assemble and test gas turbine generators for use in Navy aircraft carriers. PNSY Industries, formerly Garvey Machine, leased a portion of the machine shop in June of 1995, and is building hydraulic machinery for power plants.

Figure 9. Community reuse plan for Philadelphia



The community is hoping to secure a long-term lease with a shipbuilder who will bring a large number of new jobs to the area. A German builder was negotiating with the city to construct cruise ships in the shipyard with the possibility of up to 2,000 jobs. Although this effort was not successful, the community continues to explore foreign shipbuilders as potential tenants for the Shipyard.

Regardless of the outcome of the final decisions for projects described above, shipyard conversion is a reality in Philadelphia. Private firms do overhaul and repair work at the former Naval Shipyard facilities. Exactly which private companies will occupy the

Shipyards for the long term is still uncertain. It appears likely that several tenants will use the Shipyard facilities and there remains hope that at least one will provide a significant number of new jobs.

Charleston

The Reuse Plan for the Charleston Naval complex was completed under the direction and guidance of the BEST Committee (Building Economic Solutions Together) in mid-1994. The plan stated that the existing Shipyard facilities would be retained to the extent that privatization of the Shipyard is feasible. The BEST Committee issued a request for qualifications (RFQ) for private reuse of Shipyard facilities. When the Redevelopment Authority was formed and seated in 1994, a second RFQ was issued. A third RFQ was issued in the spring of 1995 after a second Redevelopment Authority was selected to replace the earlier appointed group.

Charleston Marine Manufacturing Corporation (CMMC) is a consortium of local businesses which includes at least two ship repair companies. In late October, CMMC signed a five year lease with the Charleston Naval Complex Redevelopment Authority to use the Shipyard's largest drydock. CMMC is overhauling a Military Sealift Command ship in this drydock. The Redevelopment Authority is negotiating with Charleston Shipbuilding Incorporated (CSI), a firm from Leesburg, Florida, that intends to install electrical power plants on the decks of surplus Navy vessels and sell them overseas.

Two companies have responded to all three RFQs. Babcock and Wilcox, a subsidiary of McDermott International Incorporated, intends to operate the existing machine shop. This shop features a state-of-the-art computerized manufacturing system called RAMP (Rapid Acquisition of Manufactured Parts). The equipment, which has the capability to quickly duplicate any metal part regardless of its configuration, might be sufficient to assure the success of a small- to medium-sized business. The company plans to lease three buildings in the Shipyard this fall, providing approximately 100 new jobs in the Shipyard. A lease between the RDA and Babcock and Wilcox is anticipated in the immediate future.

A consortium of local businesses, which includes at least two ship repair companies, has also shown an interest in leasing some of the Shipyard facilities. This consortium is negotiating with the Redevelopment Authority for the lease of approximately 15 buildings. Unless the group acquires new work as a result of its move to the Shipyard, it will not create new jobs within the community; it will merely relocate existing jobs to the Shipyard.

Work on naval ships may still provide the best opportunity for shipyard jobs in the community. In August 1995, the VSE Corporation of Alexandria, Virginia, won a Navy contract to maintain surplus Navy ships sold overseas. VSE and other companies will recondition Navy vessels that have been in mothballs and other ships that are being retired from active service so that all can be sold or leased to U.S. allies. This contract is for one year with options for nine one-year extensions. Exercising all options would lead to a total contract value of \$1 billion. South Carolina Shipyards will be awarded 29 percent of all work done under this contract. The majority of ships that will be made available under this segment of the Pentagon's foreign military sales program will be destroyers and frigates, ships that were repaired in the Charleston Naval Shipyard in the past.

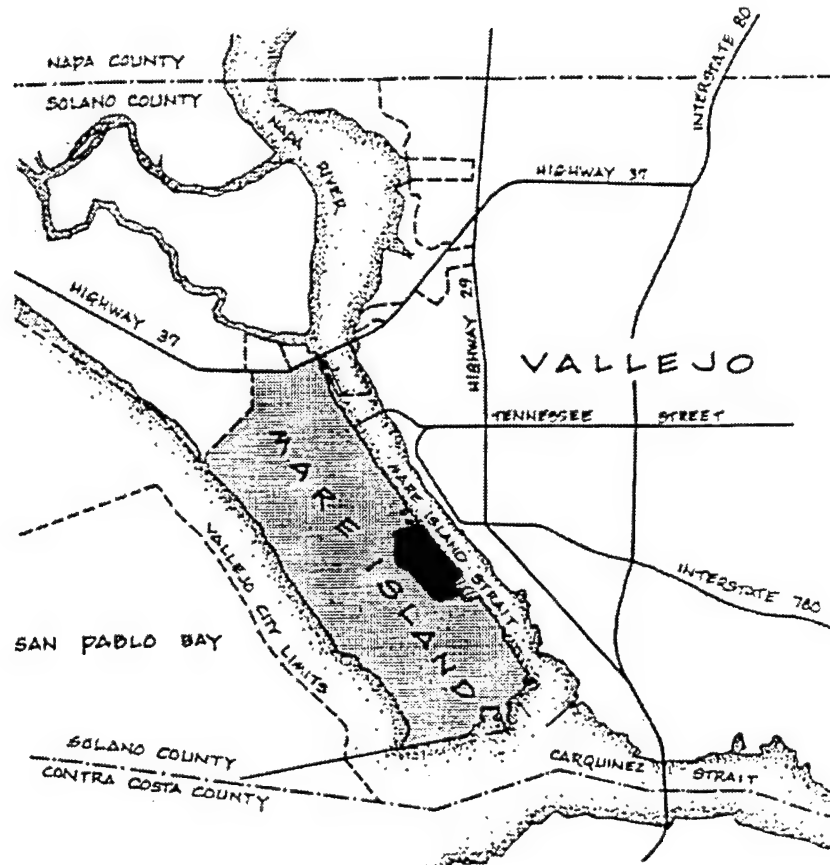
A broad look at other possibilities for shipyard conversion in Charleston was not encouraging. The volume of commercial ship traffic in and out of the port of Charleston is relatively small in comparison to major ports on the east coast, making the possibility of sustaining a new repair shipyard with a large volume of commercial traffic highly unlikely. No one projects sizable growth in commercial traffic in and out of the port. Although the reuse plan projects an increase of about 500 shipyard jobs within the next 20 years, this is relatively modest and of little help to displaced workers now.

Mare Island

The first priority of the City of Vallejo is job creation and economic redevelopment at the Mare Island Naval Shipyard. The city-developed reuse plan divides the installation into 13 separate parcels and proposes widely diverse uses for these parcels. The plan essentially creates another distinct neighborhood or section of the

city. The area planned for heavy industry is a small segment of the total property that is darkly shaded in figure 10.

Figure 10. Map of Vallejo area



A number of factors suggest that converting former Navy facilities on the island to commercial shipyard functions is impractical and improbable. Some of these factors are:

- Location: The island is 40 miles north of the central San Francisco Bay area. Both Oakland and San Francisco have a number of ship repair facilities to support their ports.

- Access: The island has only two entrances and neither is close to the controlled industrial area (CIA), which would be the logical location for shipyard functions. Land use suggestions contained in the reuse plan would dictate that vehicular approach to the CIA would be through the historic district.
- Channel: The Base Transition Officer stated that the Army Corps of Engineers will no longer be dredging the channel in the Mare Island Strait to a depth sufficient to allow ships access to the CIA. This channel, which was previously dredged to 36 feet, will now be dredged to 15 feet.
- Market: Although a much larger percentage of Navy repair work will go to commercial yards in the future, the existing capacity will still exceed the projected demand.¹² It is not likely that a commercial repair facility at Mare Island could successfully compete with established repair yards in Oakland and San Francisco.

The city has not actively pursued shipbuilding or repair companies as possible tenants. Although it has the facilities to build some of the smaller vessels described in appendix A, we are aware of no plans to develop this business area.

12. See footnote 1.

Retraining for economic development

In order to determine what role worker retraining programs play in conversion, the study team examined reemployment programs at three closing Shipyards: Philadelphia, Mare Island, and Charleston. Workers receive reemployment services from two main sources. First, the Navy Human Resource Offices (HROs) provide Navy resources and coordinate the civil service placement and incentive programs. Second, the state labor department administers federal Employment Service and Job Training Partnership Act programs.

Economic conditions and employment opportunities vary widely across the three sites, so local administration is important. We found, however, that the programs in all three sites had the same underlying structure. This is because the three HROs are administering the same civil service and Navy personnel policies. Also, the state labor departments are administering federal grants following the same guidelines. Thus, we discuss the three reemployment programs together.

Navy and state transition partnerships

Displaced Shipyard workers may receive assistance from several sources, for example, from the priority placement and incentive programs for civil service employees. In addition, federal employment and training programs funded by the Departments of Labor and Defense are administered through the state labor departments.

An important element in the success of the outplacement efforts at all three Shipyards has been the cooperation between the Navy and the state labor departments in coordinating dislocated worker benefits. The agencies have worked together to present an integrated career transition program to workers.

In the Shipyards, as in other industries when plant closure is known in advance, rapid response teams provide services that allow assistance to begin before layoffs occur. This team concept originated with 1989 revisions to legislation on federal dislocated worker assistance. In addition to early intervention, this approach stresses programs tailored to and located at the closing plant, and coordination between the state and the downsizing employer, in this case the Navy.

General evidence indicates that plant-specific, rapid response teams work better than other strategies for assisting dislocated workers.¹³ And the more effective the employer/state partnership, the better the results.

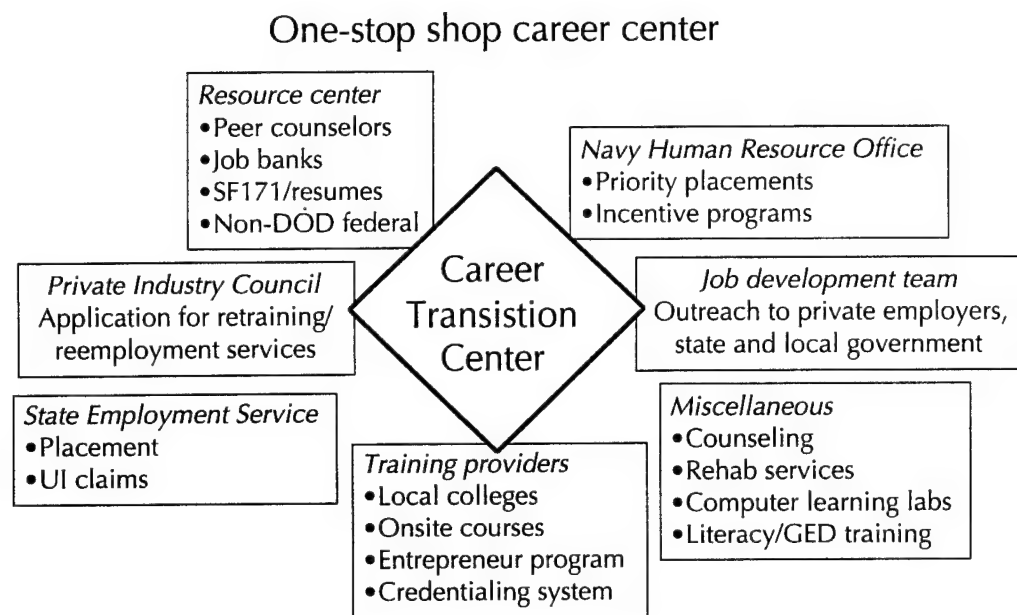
All agencies at all sites praised the close cooperation between the Navy and the state. The Private Industry Councils (PICs) said that relative to other employers they had worked with, the Navy was more concerned with their employees' futures and was willing to dedicate more resources, especially good people, to the career transition offices. Navy personnel praised the state labor departments' willingness to adapt programs to the needs of their workers and to apply the spirit, rather than the letter, of the job training rule books.

One-stop shop

An essential feature of the reemployment programs at the Shipyards is the collection of services in a "one-stop shop." Illustrated in figure 11, these centers are not only a convenience for the worker, but also improve coordination of benefits and reduce redundant efforts. Philadelphia, Mare Island, and Charleston Navy Shipyards all gathered most of the Navy and state reemployment services together in a central location within the yard. State labor department employees from the employment service (ES) and the PIC, Navy employees from HROs and career transition centers, and representatives from local training providers meet weekly to ensure coordination.

13. Report of the California Military Base Reuse Task Force, *Susan Golding, Chair. A Strategic Response to Base Reuse Opportunities*, Jan 1994; and The Congress of the United States, Congressional Budget Office, *The Economic Effects of Reduced Defense Spending*, Feb 1992.

Figure 11. The Shipyards' one-stop shop career transition centers



A worker's first contact is often with a peer counselor—a former Shipyard worker who has been specially trained and is now employed by the Navy's transition center. The peer counselor explains available services and explores the worker's options and preferences. A central resource center offers computerized job banks, SF171 and resume preparation assistance, and referrals to other services.

If a worker is interested only in early retirement or a civil service placement, he or she is referred to the HRO. We describe these programs in the next section. If a worker wants to apply for retraining or employment service benefits, his or her next step is to complete an application and assessment process with the state labor department. Many employees pursue both alternatives.

Within one location the worker can:

- Receive career counseling and job search assistance

- Use computer labs to access job banks, complete interest and skill inventories, and prepare resumes and SF171s
- Consult with the PIC job development team that is contacting private employers and state and local government to identify job openings relevant to shipyard workers
- Apply for job training benefits
- Prepare a training plan
- Explore different training providers, in some cases meet with representatives of local schools and colleges
- Take courses
- Apply for unemployment insurance and use the state employment service
- Access other readjustment benefits
 - Relocation assistance
 - Counseling
 - Childcare during training
 - Income support
 - Remedial education and rehabilitation services.

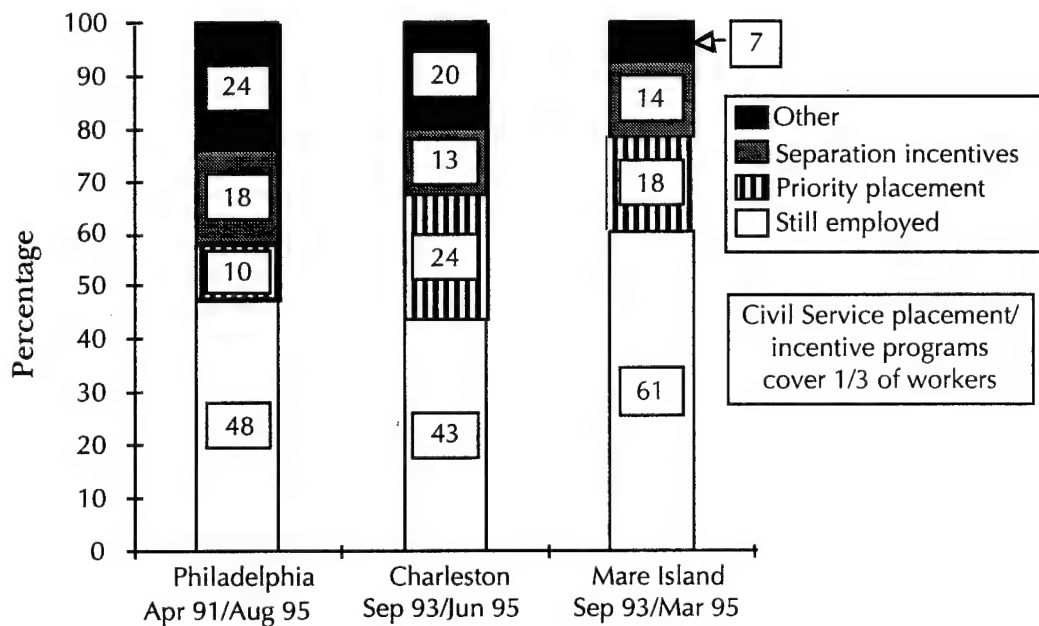
Civil service placement programs

Displaced DOD civilian employees are eligible for several outplacement programs. They have first priority in applying for other DOD jobs through the Priority Placement Program (PPP); they have opportunities to apply for other federal jobs through the Interagency Placement Program. The outplacement programs also include relocation benefits. Alternatively, they may choose Voluntary Early Retirement (VERA) or the Voluntary Separation Incentive Program (VSIP).

Figure 12 shows the proportion of workers at each Shipyard who took priority placements or separation incentives. These proportions are of

eligible employees—the number of full-time, permanent employees at the time of the base closure announcement.¹⁴ Priority placements ranged from 10 to 24 percent of eligible employees, while separation incentives accounted for from 13 to 18 percent. Taken together, the civil service outplacement programs covered from 28 percent of Philadelphia workers to 37 percent of Mare Island workers.

Figure 12. Disposition of Shipyard workers affected by base closure



The "other" category is high for Philadelphia because it includes transfer of function. Philadelphia had a higher proportion of workers

14. Philadelphia had 7,378 eligible employees, Mare Island 5,560, and Charleston 4,522. By August 1995, 770 workers in Philadelphia had used the PPP and 1,326 had chosen VERA and VSIP. By March 1995, 1,006 Mare Island workers had used PPP, and 783 had chosen VERA and VSIP. By June 1995, 1,064 Charleston workers had used PPP and 586 had chosen VERA and VSIP.

who did not lose their jobs, but had them transferred to another activity. The remaining Navy presence in Philadelphia is considerably larger than in Mare Island or Charleston.

Priority placements sometimes imply relocation. Only 22 percent of the placements for the Charleston Naval Shipyard workers, were in the Charleston area. Even though California has a large number of DOD civilian jobs, almost a third of the Mare Island placements were outside of California. The different geographical distributions did not affect how many priority placement offers were declined, however. In both Charleston and Mare Island, 12 percent of the offers were declined.

Federal employment and training programs

About two-thirds of the workers do not accept civil service outplacements. Some of these will make use of federal employment and training programs for displaced workers. Federal grants, administered through state labor departments, fund several programs that address the employment aspects of defense downsizing and base closures. One program is the employment service (ES) and unemployment insurance (UI) programs of the Federal Unemployment Tax Act (FUTA). The Pennsylvania Department of Labor and Industry, the California Employment Development Department, and the South Carolina Employment Security Commission provide such services as assessment, job referral and placement, job search assistance, computerized job information, referrals to training and support services, special services for veterans, and unemployment insurance benefits.

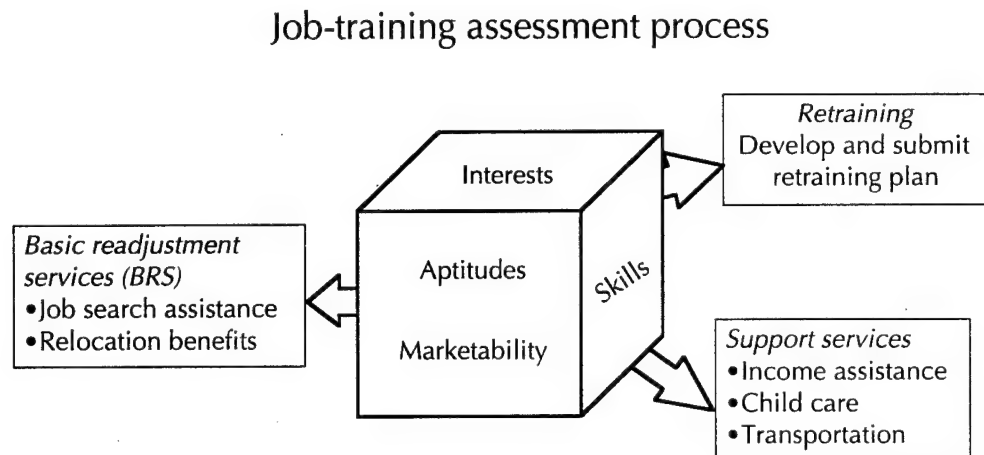
The state labor departments also administer Job Training Partnership Act (JTPA) Title III grants for dislocated workers.¹⁵ The offices in charge of JTPA are called Private Industry Councils (PICs). JTPA programs assist workers in developing training plans, pay for reasonable training costs, and offer job search assistance, relocation benefits, and income support. The PICs also do job development.

15. Also called the Economic Dislocation and Worker Adjustment Assistance Act (EDWAA), this legislation covers workers who were with their employer at least 3 years and who lost their jobs because their plant or business shut down, their shift or job was abolished, or there was not enough work for them to do.

Additional funds for workers affected by defense cutbacks and base closure are provided through the Defense Conversion Adjustment Program and the Defense Diversification Program.

The screening for these programs begins with an assessment (see figure 13), which includes computerized inventories of skills, aptitudes, and interests. Current job skills are compared to local job opportunities. Workers who already have marketable skills are not referred for retraining. Instead, they are directed toward Basic Readjustment Services (BRS) for help with job searching.

Figure 13. Assessment and referral in JTPA Title III programs



Workers who do not have readily marketable skills are eligible to develop a retraining plan. This plan must satisfy JTPA guidelines. In particular, the state will only pay for training that is the shortest route to a marketable skill. For example, nuclear engineers might be authorized to take a few engineering courses to qualify for local engineering jobs, but they would not be authorized to attend law school. Also, training must qualify the worker for a job that is in demand in the area, as determined by local labor market statistics. Finally, only reasonable training costs are covered.

These guidelines are in place to ensure that Title III funds are spent in accordance with the mandate of national job training legislation. All of the sites we visited were committed to making sure that training dollars were not wasted and that training prepared workers for existing job opportunities.

Table 2 shows how many Shipyard workers have participated in JTPA Title III programs. Because these programs are locally administered, some care must be used in comparing program statistics. In particular, South Carolina tracks participation by the number of people who complete assessments, while Pennsylvania and California count people who enroll for services after receiving their assessment results. Also, South Carolina counts people referred to training programs rather than enrollments. So, even though the retraining program looks larger in South Carolina, the number of people actually in training was estimated at about 1,000.

Table 2. Participation in Shipyard worker retraining programs

Shipyard	Eligible employees	Total enrollments	Basic readjustment services	Retraining
Charleston	4,522	2,761	800	1,961
Mare Island	5,560	1,690	1,028	662
Philadelphia	7,378	2,083	1,416	667

A reasonable estimate, then, of how many Long Beach Shipyard workers will take JTPA Title III training is between 650 and 1,000.

What training is being offered?

Most Title III training, and virtually all of the training at the Shipyards, has been classroom training provided by local colleges, community colleges, and vocational-technical (VoTech) schools. JTPA also provides on-the-job (OJT) programs, but they were rarely used. We discuss OJT later.

Table 3 shows some of the courses of study that have been most often elected at Philadelphia, Mare Island, and Charleston. They appear in no particular order and did not vary much from one site to another.

Table 3. Frequently-elected training courses

Environmental technician (HAZ-MAT, asbestos abatement, OSHA)	Microcomputer applications (word processing, spreadsheets)
Heating and air conditioning (HVAC)	Microcomputer technician
Building maintenance	Business
Computer-aided design	Required courses for degree completion
Electronics	

How could job-training programs be improved?

Existing job-training programs are well administered. In large part because of the cooperation between the Navy and the state labor departments, the programs are meeting their goals of getting workers reemployed in satisfactory jobs. If improvements could be made, it is not in how the programs are run, but in broadening their mission to include economic development and the well-being of the Shipyard communities.

Existing job-training programs do not emphasize job creation

Several factors have shaped the training programs offered by the Navy Shipyards. First, it is important to realize that Navy Shipyard retraining programs make use of a large existing JTPA infrastructure. In FY 1995, appropriations for defense conversion programs were \$110 million, compared to \$1,600 million for other dislocated worker retraining programs. In addition, other large job training programs target youth and disadvantaged adults.

It makes sense to use this infrastructure and what administrators have found to work and not work in the past. At the same time one must realize that the infrastructure and lessons learned serve the mandates of Labor Department worker retraining programs. The Navy's goals in retraining and reemploying its Shipyard workers may or may not

be the same as the Labor Department's. In particular, JTPA programs are not concerned with communities and retraining for economic development.

Furthermore, existing JTPA training providers are in a strong position to claim the base closure funds. They have worked with the state labor departments and know the state and federal guidelines. Also, they can spend grant funds efficiently, especially for the schools and colleges with "up-front" tuition charges. Unexpended funds at the end of a 2-year period are withdrawn from a sponsor and reallocated to others who have been more successful in spending their resources rapidly.

What attributes should a new program have?

Balance the needs of community, employers, and workers

In order to achieve optimal placements, this goal must be made explicit. Currently no one is advocating using retraining funds to attract new jobs. An employer's relocation requirements and the community's goals for economic development and quality of life may not always be consistent with the workers' easiest and quickest placements. A successful job-training for development program would have to meet all these objectives.

Include public/private partnerships for work-based training

Previous evaluations of dislocated worker training programs have shown that involvement of the private sector in developing training programs can make a substantial difference in the success of a program.¹⁶ Allowing prospective employers to help design the training guarantees that workers will be taught what employers need them to know. It must also be stressed that the workers must find the programs attractive—they cannot seem to serve economic development goals at the price of the workers.

16. K. P. Dickinson et al. *Study of the Implementation of the Economic Dislocation and Worker Adjustment Assistance Act*, prepared by SRI International for the U.S. Department of Labor, Employment and Training Administration, Contract No. 99-9-3104-98-084-01, Jul 1991.

Another theme in training research is that workers learn best in an environment that resembles the work they will be doing—so called work-based learning. This could be on-the-job training, but it doesn't have to be. A classroom with relevant equipment and a curriculum that includes examples taken from the workplace seems to do just as well. For example, many community colleges have training programs that are designed with the participation of local employers.

Avoid the pitfalls of previous OJT programs

JTPA allows OJT programs in which the employer helps design the training plan and the state pays training costs plus half of 6 months' wages. Career transition specialists at all three sites said that workers had not been interested in on-the-job training proposals. The workers often had some time left in their present jobs at higher pay than the OJT positions. An opinion voiced in other studies of dislocated workers is that the workers perceive higher future payoffs from getting a certificate or completing a degree.¹⁷ A negative stigma is associated with OJT because these programs have usually been targeted at low-skill workers. Finally, there seems to be suspicion that OJT jobs are used to meet employer and economic development needs, not worker needs.

Administrators may be reluctant to pursue OJT programs because of the risk of contract abuse. In the past, some firms have not hired trainees, but instead have brought in new groups, using the training incentive as a wage subsidy. Finally, the timing can be difficult—a firm must make a commitment, training must be designed and trainers hired, workers must be recruited and approved for funding, and funds must be expended—all within a 2-year window.

Meet the challenges of retraining for job creation

Successful use of job training funds as an incentive for economic development requires innovation and careful coordination. First, the sometimes competing interests of the workers, employers,

17. Duane Leigh. "An Overview of Existing Evaluation Evidence for the U.S." *Assisting Workers Displaced by Structural Change: An International Comparison*, Upjohn Institute, 1994.

community, and the Navy must be balanced. Second, difficult timing problems must be overcome. Overcoming these problems will require a strong advocate for the goal of retraining for economic development.

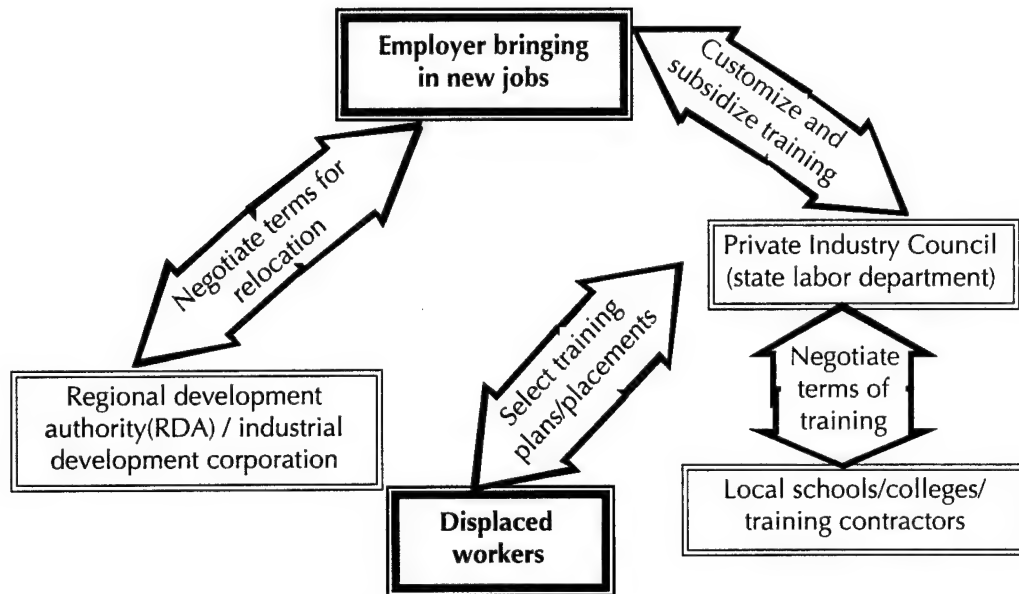
The top half of figure 14 shows the different players who must cooperate in order to create jobs with retraining programs. Employers who will bring new jobs into the community must be identified. Usually this would be a specific firm, but if it is likely that some industry, for example, intermodal transportation, will enter the area, generic training for this industry could be considered. The employer and the regional development authority then enter into negotiations to attract the employer to the area.

While the employer and RDA are negotiating, the PIC and the Navy set up a career transition center. The PIC can work with the prospective employer to design a customized training plan. The training subsidies the PIC offers would be one element in the package of incentives being offered to the company. At the same time, the PIC would be working with local training providers to determine how the training would be provided and at what cost. The majority of the providers would be community colleges and VoTech schools, but some firms have their own training department and others use private contractors to provide employee training.

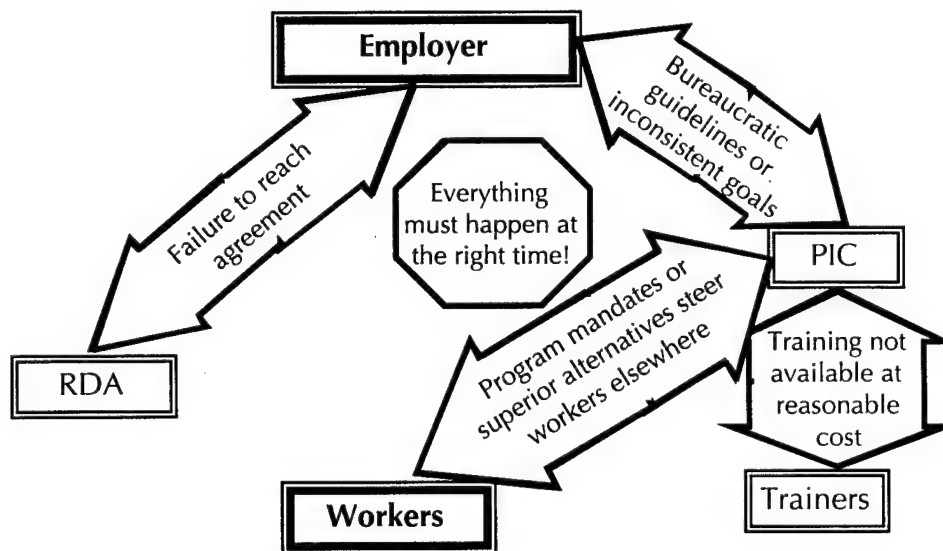
The PIC also helps dislocated workers in assessing their skills and designing individual training plans. Even after civil service outplacement programs cover one-third of the workers, retraining positions that create jobs would have to compete with many other training options.

The bottom half of figure 14 shows where the process can break down. The employer must be identified and must make a firm enough commitment in time for the PIC to design training plans and recruit workers. Employers may find that the JTPA guidelines do not allow the kind of training they want, or that training costs are more than JTPA will fund. Workers may not elect the training package—because they have superior alternatives or because of a negative stigma attached to programs that involve economic development and OJT. Finally, the training package must be offered to the workers at the right time: not

Figure 14. Retraining and job creation



Players and roles in job creation



Challenges to job creation

so early that they prefer continuing in their Shipyard jobs and not so late that they have taken other jobs.

Although retraining for economic development adds additional challenges to traditional retraining programs, we believe that the challenges can be overcome. The key is to recognize that job creation adds a new element to retraining programs. We cannot say that job creation failed at the other Shipyards, it simply was not a priority. With the proper guidance, existing resources could be redirected toward the goal of maintaining a healthy local economy.

Long Beach

Long Beach and the community prospects associated with closing the Naval Shipyard are different in many respects from the situations faced by Philadelphia, Charleston, and Mare Island. We discussed the economic and geographic differences earlier in the report. This section deals with the opportunities available to the community of Long Beach as it focuses on reuse of the Naval Shipyard.

Base closure is not new to the Long Beach community. The Long Beach Naval Station, two Naval housing developments, and the Long Beach Naval Hospital closed in 1994 based on the recommendations of BRAC 91. The process is about to begin again as Long Beach adjusts to closure of the Shipyard.

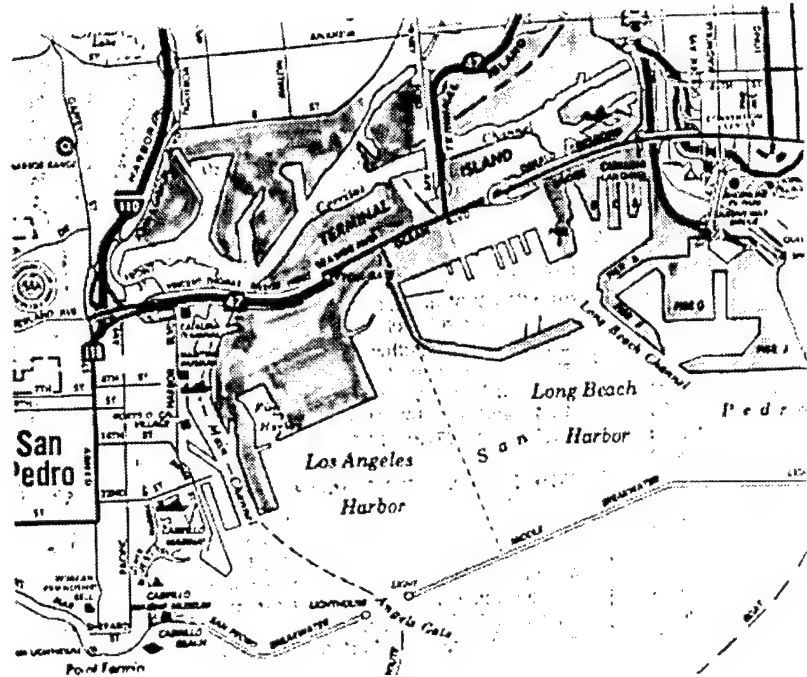
The city will again form a Naval Properties Reuse (NPR) Committee after the Department of Defense officially recognizes the City of Long Beach as the Local Redevelopment Authority (LRA) for the Naval Shipyard. This committee will begin meetings with city officials to better understand issues of importance to the City. This fall the NPR committee will conduct a number of public meetings and forums that will ensure that the concerns and ideas of the public are heard. One purpose of these meetings is for the committee to learn what reuse options the citizens of the community consider most important. The committee will also conduct briefings and provide tours of the closing Naval facilities. During 1996, the NPR committee will develop the reuse plan for the Naval Shipyard.

Expanding the port of Long Beach

When the reuse plan for the BRAC 91 properties was submitted to the Department of the Navy for approval, the plan recommended that the entire Naval Station be used to expand the Port of Long Beach. Various sections of the Naval Station are currently being turned over

to the port. When this action is completed, the Port of Long Beach will completely surround the Naval Shipyard (see figure 15).

Figure 15. Port of Long Beach



The Port of Long Beach adopted the San Pedro Bay Ports 2020 Plan, issued in 1987, as a long-range planning document for port expansion. Following the announced closure of the Naval Station in 1991, the Port of Long Beach issued a Facilities Master Plan to serve as a companion document to the 2020 plan. The master plan identifies development opportunities not considered in the 2020 plan and revises estimates on types and numbers of cargo terminals required in the future. It also presents three alternatives for port expansion based on current cargo-handling capacity and the high and low forecasts of trade volumes in 2020.

The major expense of expanding the port is purchasing or creating land. If land is available, its price and location must be weighed against the cost of landfill. Landfill may allow selecting a more optimal location

for facilities. The three alternatives presented in the Facilities Master Plan include both purchase of existing land and landfill. The landfill projections vary from 50 to 800 acres.

The City will begin evaluating proposals and options for reuse of the Naval Shipyard in the near future. Incorporating the Shipyard property into the port expansion plan will be one of the alternatives that the reuse authority will examine.

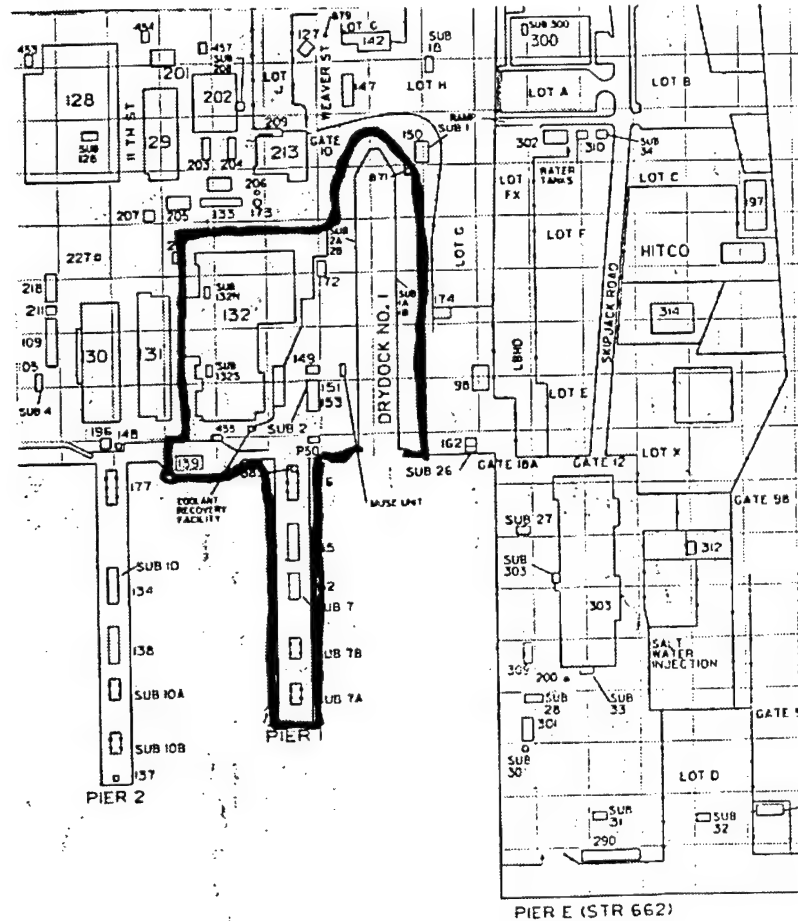
Commercial ship repair facilities

A commercial ship repair facility is likely to be another alternative the reuse authority may consider. Figure 15 shows the Naval Shipyard surrounded by the Port of Long Beach (shaded area). A detailed view of the most likely location of a ship repair facility on the Shipyard property is shown in figure 16.

When the Navy vacates the Shipyard at Long Beach, it will be leaving an 1,100-foot drydock, which is one of the three largest operational drydocks on the west coast. Also, they will vacate several buildings furnished with state-of-the-art ship repair equipment. For example, Building 132, a 200,000-square-foot building, is the machine shop and pipe shop for the Naval Shipyard. It can provide space for all of the various shop functions required to operate a commercial repair facility. Drydock No. 1 and Building 132 are well located to serve ships calling on the San Pedro ports.

Can a commercial repair facility be successful at Long Beach? We showed earlier that commercial shipyard capacity in the United States exceeds demand. To be successful, a commercial repair yard at Long Beach would have to exploit the availability of the large and growing international merchant fleet that is calling on the San Pedro ports. More than 11,000 ships called on these ports in 1992, and the number is growing. The vast majority of these ships are foreign flagged. The volume of traffic was projected to increase by 20 percent this year. These ships could serve as a captive market for a repair facility if repair costs are competitive with the world market.

Figure 16. Location of ship repair facility at Long Beach Naval Shipyard



Whether a ship repair facility at Long Beach would be a successful long-term economic development venture is not yet clear. Some factors argue for the operation of a ship repair facility—a good facility, a ready trained workforce, tax incentives. Other factors—excess domestic repair capacity and competition from foreign shipyards—argue against it. The City of Long Beach should analyze these factors in light of its long-term goals.

Retraining the Long Beach work force

We have talked about how retraining the displaced work force may be more effective in the long term if it is linked to economic development. Long Beach may be able to benefit from what we have learned about training in Philadelphia, Charleston, and Mare Island.

The need for new jobs in Long Beach, together with the demonstrated strengths of existing shipyard career transition programs, could create an ideal situation for an innovative program. We believe a retraining program can be designed that emphasizes job creation for Long Beach Naval Shipyard. With the proper guidance, existing job training resources could be redirected to meet the goal of a healthy local economy.

The rapid-response career transition centers used in Philadelphia, Mare Island, and Charleston Naval Shipyards provide a sound base from which to build. These programs are models of the cooperation that is needed between the Navy and state labor departments in coordinating dislocated worker benefits. We have shown above that effective employer/state partnerships are necessary for successful retraining programs. The already close cooperation between the Navy and the states will overcome many of the challenges to creating jobs with retraining.

Using job training funds to stimulate economic development requires more than a good Navy/community partnership, however. It also requires a strong advocate, innovation, and careful coordination. Present job training programs do not emphasize job creation because their focus is on worker placements rather than long-term regional development. The Navy and the community of Long Beach could, however, choose to pursue the additional goal of creating jobs.

The program we have in mind would start with existing career transition centers as models and add the following features:

- A focus on Long Beach's long-term economic growth and on developing a work force to attract new business. This focus was not a part of reemployment programs in Philadelphia, Mare

Island, and Charleston. For it to happen in Long Beach will require a strong advocate and a concerted effort.

- Early identification of specific firms or generic types of industries that fit with economic development plans and could be attracted into the region. Then, the community must make greater efforts to use the PIC's training subsidies as incentives for firms to relocate in the shipyard area. Also, the timing of firms entering and workers being recruited, retrained, and released must be carefully considered.
- Cooperation between the Navy, the PIC, and prospective employers in designing retraining programs that will equip shipyard workers for new jobs. Research on job training indicates that active public/private partnerships are important to a program's success. Local colleges, community colleges, and VoTech schools can also provide substantial assistance in designing training programs.
- More effort devoted to showing workers that the new jobs will be in their best interest, as well as in the communities' and the employers'. Unless ex-shipyard workers accept the training positions, the program will fail.
- An emphasis on work-based learning and training to meet specific employers' needs. Studies of training and adult and vocational education have consistently shown that learning occurs best in a situation that resembles the workplace. Although OJT is not optimal in all cases, it is always possible to design a curriculum with "real-world" examples. More applied courses, more use of techniques, equipment, and facilities similar to those of the worksite, and more internships all increase the effectiveness of training. In addition, employers are more likely to be happy with workers trained to their standards.

Appendix A: The specialty ship market in the United States

The market appears to be growing for specialty type ships throughout much of the country. The demand for casino/gambling boats has risen dramatically over the past 3 years. Riverboat gambling is legal in 6 states and is under consideration in 15 more. At present, the major geographic concentration of these boats is in the Mississippi River basin and along the Gulf Coast. The demand is also growing for passenger vessels that are not gambling boats, and excursion and dinner cruise markets have seen steady growth in recent years.

The second category of smaller vessels, utilitarian craft, also shows significant growth in new construction over the past 2 years. Vessels included in this group are:

- Ferries
- Push boats, tow boats, and tugs
- Barges (river and offshore)
- Fishing boats.

The potential for ferries in a number of different states appears to be excellent. The Intermodal Surface Transportation Efficiency Act of 1991 has been responsible for a major increase in the ferry business. The purpose of this act is to develop an efficient and environmentally sound National Intermodal Transportation System (NITS) that will include all forms of transit. It may have a major impact on ferry construction. The act provides a flexible funding program and allows states, regions, and local agencies to determine whether funds should go for highways and bridges or for transit. The act specifies that approximately 20 percent of the \$151 billion allocation will be spent for transit systems.

Increases in barge construction have been significant over the past few years. The size and capacity of offshore barges are increasing dramatically. Today's jumbo barges can often carry twice the cargo weight at the same operating draft as their predecessors. The 1993 Annual Shipyard Survey reported by the American Waterways Shipyard Conference showed that although the construction of river barges decreased, construction of new offshore barges increased by more than 700 percent.

Although we learned of only one instance where construction of any of these type vessels was seriously discussed at a closing Navy Shipyard, we believe that construction of any of the vessels mentioned in this section can be accomplished at any of the four subject Shipyards with minimum modifications or renovations. We believe that future marketing efforts by the Local Redevelopment Authority in all four locations should explore the potential for small vessel construction.

Appendix B: Area definitions used for community employment profiles

The regions in table 4 are standard statistical areas used by the Bureau of Labor Statistics. Annual averages of state and area data are published in the May issue of *Employment and Earnings*. Annual averages are revised the year after they are first published. Because of this we used the second occurrence of a year's statistics, e.g., the 1982 numbers were taken from the May 1984 issue.

Table 4. U.S. Department of Labor statistical area definitions^a

Area	Includes
Philadelphia	Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties, PA; Burlington, Camden, and Gloucester Counties, NJ
Charleston	Berkeley, Charleston, and Dorchester Counties
Los Angeles/Long Beach	Los Angeles County
Vallejo/Fairfield/Napa	Napa and Solano Counties

a. U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, May issues from 1984 through May 1995.

Reference [1] is also the source for the data for figures 3 through 8. Total and manufacturing employment, from the establishment data, were taken from the table "Employees on nonagricultural payrolls in states and selected areas, by major industry." Unemployment, expressed as a percentage of the civilian labor force, was taken from the table "Labor force status, by state and selected metropolitan areas."

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